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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,031	04/09/2001	Jeffrey Browning	A063 US	1334

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EXAMINER
LI, BAO Q

ART UNIT	PAPER NUMBER
1648	

DATE MAILED: 08/22/2002 fD

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/829,031	BROWNING ET AL.	
	Examiner	Art Unit	
	Bao Qun Li	1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) *6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claims 1-8 are pending.

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-5 and 7 in Paper No. 9 in the scope of soluble LT-β-R is acknowledged. The traversal is on the ground(s) that the lymphotoxin-β-receptor and lymphotoxin-β-receptor/Ig fusion protein are members of a single genus of the invention of an antagonist to the lymphotoxin-β-receptor.

2. After reconsidering the claimed invention, lymphotoxin-β-receptor/ lymphotoxin-β-receptor/Ig fusion as well as antibody against lymphotoxin-β-receptor or a soluble lymphotoxin-β-receptor are rejoined together for the persecution on the merits.

3. Because claims 8 is dependent on the elected claim 7, therefore, it is rejoined to the elected group I in the scope of lymphotoxin-β-receptor.

4. Claims 1-5 and 7-8 are examined on the merits.

5. Applicants are request to cancel the claim 6 drawn to the non-elected group.

Information Disclosure Statement

6. The information disclosure statement filed 04/12, 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

7. Claim 2 is objected to because of the following informalities:

Please spell out the complete words of LT-beta-R first recited in claim 2. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-5 and 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite in that the metes and bonds of an effective amount are not defined. Although the claim is interpreted in light of the specification, the specification does not give the definition of effective amount. Please clarify. This affects the dependent claims 2, 4-5 and 7-9.

Claim 1 is further vague in that the metes and bonds of an agent are not defined. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Because there are many agent can be used to block the binding of lymphotoxin-β to its receptor, the claim should point out which blocking agent is intended. This affects the dependent claims 2-5 and 7-8.

10. Claims 1-2, 4-5 and 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the dosage of the agent, the rout of the administration and schedule of the treatment etc.

11. Claim 2 is vague and indefinite in that metes and bonds of " an antibody" are not defined. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Is Applicants wish to claim a particular antibody, please amend the claim to the specific antibody intended. This affects the dependent claim 7.

Claim Rejections - 35 USC § 112

12. Claims 1-5 and 7-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for reducing the symptom caused by the infection of lymphocytic choriomengitis virus clone 13 (LCMV-13) in a mouse model with lymphotoxin-β (LT-β) or lymphotoxin-beta-receptor-Ig fusion protein (LTβR-Ig), or plus an antibody against

TNF-α, TN3-19.12 or use of monoclonal antibody BD8 mAb, does not reasonably provide enablement for having a method of using LT-β or LTβR-Ig for inducing an anti-viral response in human for other viruses, such as Sin Nombre virus (SNV), Ebola virus, Marburg virus Lassa virus and Dengue virus. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The test of scope of the enablement is whether one skilled in the art could make and use the claimed invention from the disclosures in the application coupled with information known in the art would undue experimentation (See United States v. Theketronic Inc., 8USPQ2d 1217 (fed Cir. 1988). Whether undue experimentation is required is not based upon a single factor but rather a conclusion reached by weighting many factors. Theses factors were outlined in Ex parte Forman, 230 USPQ 546 (Bd. Pat. App. & Inter. 1986).

In the instant case, the specification only show that injection of LT-β or LTβR-Ig into mice after the mice were infected with virus LCMV-13 5 day, is able to reduce the symptom. The LCMV-13 is the virus that cause a virus-induced shock and respiratory failure that bears many similarities to the cardiopulmonary syndrome caused by SNV in human. The specification is deficient for teaching that LT-β or LTβR-Ig is able to exhibit any anti-viral response in the symptoms cause by Sin Nombre virus (SNV), Ebola virus, Marburg virus Lassa virus and Dengue virus in any animal model and in human too.

Applicants are reminded the field of treating the "sepsis syndrome" related to different virus are quit complicated and incredible.

Because Sin Nombre virus (SNV), Ebola virus and Dengue virus are structurally different viruses, they produce some clinical symptoms in different mechanisms. For example, the Dungue virus belongs to the Flaviviridue and the symptom of hemorrhagic diathesis has been suggested on the basis of producing a high level of plasminogen activator-inhibitor that interrupting the fibrinolytic system, (Fields et al. Virology 3rd edition, lines 6-26 on the col. 2 of page 1018), whereas the Ebola virus belongs to the filoviridue. The pathogenesis of Ebola is only the pulmonary interstitis edema but an extensive vascular effusion plus the renal tubular

dysfunction (Fields et al. Virology 3rd edition, lines 18 on col. 1 through line 14 on col. 2 of page 1169).

The specification does not teach that all the systemic shock induced by Sin Nombre virus (SNV), Ebola virus and Dengue virus are through the same mechanism and application of the LT-β or LTβR-Ig would produce similar response as it is disclosed for LCMV-13 infected mice in human or any other related animal models.

Applicants do not provide any guidance dealing with the use of LT-β or LTβR-Ig for treating the disease cause by Sin Nombre virus (SNV), Ebola virus, Marburg virus Lassa virus and Dengue virus in any animal model and in human either.

Considering the broad scope of the claimed invention read on many other viruses rather than the disclosed virus LCMV-13, it must be considered that the skilled artisan would have had to conduct undue and excessive experimentation in order to practice the claimed invention.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5 and 7-8 are rejected under 35 U.S.C. 102(a) as being anticipated by Browning et al. (WO 98/17313A2).

Browning et al. teach that a method for treating human immunodeficiency virus in mammal comprising the step of administering a pharmaceutical composition comprising therapeutic effective amount of LT-β-R blocking agent and a pharmaceutical effective carrier (Claims 36-48). Therefore, the claimed invention is anticipated by the cited reference.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Qun Li whose telephone number is 703-305-1695. The examiner can normally be reached on 8:00 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Housel can be reached on 703-308-4027. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4242 for regular communications and 703-308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Bao Qun Li
August 21, 2002

ALI R. SALIMI
PRIMARY EXAMINER